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| EXAMINER |
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ALPERT, JAMES M

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| ART UNIT | PAPER NUMBER |
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3693

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/708,124

Applicant(s)

LEWIS ET AL.

Examiner

James Alpert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-22,24-26,28 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-22, 24-26, 28,30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

The following communication is in response to Applicant's amendment filed on 27 November 2006.

Status of Claims

Claims 2-3,23,27, 29 have been canceled so Claims 1,4-22, 24-26, 28,30 are currently pending.

Response to Arguments

As to the objection related to Claim 17, Applicants' amendments have been entered and the Examiner withdraws the objection.

As to the rejection made under 35 USC §112, the Examiner acknowledges his error regarding the differences between Claim 1 and now-canceled Claim 29. Cancellation of the claim has rendered this error moot.

As to the rejections made under 35 USC §103, Applicant's arguments with respect to claims 1,4-22, 24-26, 28,30 have been considered but are moot in view of the new grounds of rejection, necessitated by Applicants' amendment, detailed below. Therefore, Claims 1,4-22, 24-26, 28,30 remain rejected, and Applicants' request for allowance is respectfully declined.

Claim Rejections - 35 USC § 103

The text of 35 U.S.C. §103, which is not included in this action, can be found in a prior Office action. Claims 1,4-11,14-22,24-26,28,30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hillmer, U.S. Patent 6,714,918, in view of Degen, 6,418,436, and further in view of Hayosh, U.S. Patent 6,611,598. Claims 12-13 are

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rejected under 103(a) as being unpatentable over Hillmer, in view of Degen, and further in view of Hayosh, and further in view of Baker, U.S. Patent 5,680,511.

With regards to Claims 1,24-26, and 30, the Examiner would like to make an observation about the process disclosed in Hillmer from a macro point of view. The summary of the invention found at (Hilmer, Col. 2, lines 32-37) outline the basic aspects of Applicants' plan. This passage recites a method wherein:

A first score is computed as a function of each commodity involved in the transaction. A second score is computed as a function of each of a first one or more of the plurality of transaction parameters. A fraud score is computed based on the first and second scores. The transaction is indicated to be potentially fraudulent if the fraud score exceeds a first pre-determined threshold.

In the Examiner's view, the first score and second score computations, described above, read directly on Applicants' first two determining steps and the combining step of Applicants' independent claims. The remaining issue is whether Hillmer also teaches the blending step. While the blending step is somewhat described in the specification, is yet to be defined in the claims. That is to say, there is no ordinary meaning of the word "blend" in the financial arts. Applicants are reminded that claims must be given the broadest reasonable interpretation *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). When a transaction is "indicated" to be potentially fraudulent, this could easily be interpreted to be a value such a "yes" or "no" or some other term that could read on a broad interpretation of the "blending" limitation that results in a "final fraud risk score value." The Examiner might suggest that Applicants undertake a further refining of the term "blend" in the claims to remedy this broad interpretation.

Turning now to a more detailed analysis, Hillmer teaches a method, medium, and apparatus comprising:

receiving transaction data that defines the electronic commerce transaction;
(Col. 4, line 38 – Col. 5, line 2)

determining a second fraud risk score value associated with the electronic commerce transaction based on a comparison of the transaction data to historical transaction data; (Figure 2b(1), items 308-312; Col. 7, line 42 – Col. 8, line 6, describing how customer information relating to email address, domain address, and Internet Protocol address, as well as other information is used in calculating fraud scores)

With regard to the following limitation:

determining a first fraud risk score value associated with the electronic commerce transaction based on applying a plurality of tests to the transaction data

While the Examiner has indicated that Hillmer does not expressly disclose several of the text-based tests that are described in Applicants' specification ("presentation" tests), it is important to note that these tests do yet appear in the claims. Thus Hilmer may, as indicated above, read directly on this limitation. Still in anticipation of an amendment to the claims, the Examiner cites Degen at (Col. 6, line 29 – Col. 7, line 45) as demonstrating this type of evaluation and scoring. Further, It would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to combine the teachings of Hillmer, relating to a fraud scoring based on comparing transaction data with historical records, with Degen, related to fraud scoring based on text-based evaluations. The motivation for such a combination is within the general knowledge of one of ordinary skill in the art, and is simply to create a fraud detection mechanism which performs two types of evaluations in a single process, thereby saving time and money. In addition, combining multiple types of test to detect

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fraud would provide improved accuracy, over a score calculated by performing each test singularly.

With regard to the following clause:

“wherein each of the plurality of tests determines whether the transaction data appears to represent a genuine transaction based on specified criteria”

This limitation recites an intended use and is granted little patentable weight. Further, Degen discloses the idea that text based fraud scoring determines genuineness. See (Degen; Col. 5, lines 54-56).

Continuing, Hillmer teaches

combining the first fraud risk score value and the second fraud risk score value using a statistical model to result in creating a model score value; (Figure 2b(1), items 306, 324,326; Col. 12, lines 20-24; Col. 11, lines 55-65, describing the process by which the comparison operators from above are combined to return a confidence score as to whether fraudulent activity is occurring)

It would have been obvious to include said test as disclosed by Degen at the “combining” step, as that is where all the tests are combined into a final score. Hillmer discloses using “other mathematical computations”, (Col. 11, lines 55-65), indicating the idea that statistically combining scores in a variety of different combinations is contemplated.

Hillmer also teaches the step comprising:

blending the model score value with one or more merchant-specific threshold values to result in creating and storing a final fraud risk score value for the electronic commerce transaction. (Figure 2b(1) item 314; Col. 8, lines 44-51; Col. 9, lines 7-10, describing the vendor multiplier points which are used to account for vendor specific weights)

In a nutshell, Applicants argue (in section “B” of the remarks) that the threshold values described above are found in the wrong position of Figure 2b(1). That is to say,

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they are not "blended" correctly. The Examiner disagrees, and would point out that there is no temporal requirement of any steps of Applicants' claims. Further, and as noted previously, Hillmer makes it clear that the steps in his process, such a weighting, combining, blending, multiplying, etc. can be performed in a variety of different orders. See (Hillmer, Col. 13, lines 29-34). This provides flexibility presumably to a user of the process, and also suggests that minor modifications are inevitable.

Applicants have amended the claims to indicate that receiving transaction data comprises the steps of:

receiving transaction data that defines the electronic commerce transaction for a particular Internet identity, and wherein determining a second fraud risk score value comprises determining a second fraud risk score value associated with the electronic commerce transaction based on a comparison of the transaction data to historical transaction data for other electronic commerce transactions pertaining to the same Internet identity.

However, Hillmer teaches this limitation directly at (Col. 4, lines 59-62 and Col. 8, lines 4-6) which, among other things, directly describes determining fraud scores based on Internet Protocol as well as email addresses.

Applicants have further limited the claims by specifying that:

the particular Internet identity comprises a first hash value of an email address of a prospective purchaser carried in combination with a second hash value of a card bank identification number of the prospective purchaser.

However, as mentioned above, Hilmer discloses using email addresses as an Internet identity. As to the BIN number, the Examiner maintains that this is old and well known in the art. Still, please consider that in an application in a related field, Hayosh teaches this feature, as well as the old and well-known hashing function, both in the glossary of terms (see "hash" and "RT"). Further, it would have been obvious to one of

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ordinary skill in the art at the time Applicants' invention was made to combine the teachings of Hillmer, relating to determining a fraud score, with the teachings of Hayosh, demonstrating that hashing and BIN numbers are recognized terms in fraud detection and encrypting financial data. The motivation for such a combination is within the general knowledge of one of ordinary skill in the art, and is simply to consider as much specific, identifying data as possible to make accurate determinations of fraud. Further, since email address and BIN are very disparate types of data, it makes even more logical sense to combine these types of data in a fraud determination. Points A & B of Applicants' remarks have now been addressed.

With regard to Claims 4-6, these claims recite the various details surrounding the exact comparison data used when evaluating a specific Internet identity. The examiner takes Official Notice of the ease in retrieving a BIN number or a NIC card identity. Applicants' comments regarding the Examiner's previous motivation to combine are well taken. Still, there are many reasons an ordinary practitioner in the financial arts would modify Hillmer, and the examiner uses the phrase "within the general knowledge" to express the idea that financial practitioners are well aware of the need to make simple modification to various processes in order to make them perform better. Thus, it would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to modify Hillmer to include these identifying factors. The motivation to modify Hillmer is within the general knowledge of one of ordinary skill in the art, and is simply to consider as much specific, identifying data as possible to make accurate determinations of fraud.

With regard to Claim 7, Hillmer teaches the method comprising:

retrieving one or more records of historic transaction data pertaining to past transactions associated with the transaction data; and when one of the records of historic transaction data is found to contain a fraud list tag, discontinuing further retrieval of such records; (Col. 8, lines 7-22)

determining the second fraud risk score value associated with the electronic commerce transaction based on only the retrieved records of historical transaction data in comparison to the transaction data.

(Figure 2b(1), items 306, 324, 326; Col. 12, lines 20-24; Col. 11, lines 55-65)

Applicants argue that Hilmer does not teach these limitations, however in a broad reading of the claims, if the factors indicate that a previous fraud had been committed, the determination of fraud would be easy to conclude, thus effectively discontinuing consideration and retrieval of records.

With regard to Claim 8, Hillmer does not expressly teach the method comprising:

when a specified amount of the records of historic transaction data is retrieved and further records of historic transaction data remain to be retrieved, discontinuing further retrieval of such records; and determining the second fraud risk score value associated with the electronic commerce transaction based on only the retrieved records of historical transaction data in comparison to the transaction data.

Applicants comments regarding the Examiner's poor choice or wording in formulating a motivational statement in the previous action are well taken. However, the Examiner did not intend to impart special meaning to the term "can be". Thus the Examiner again takes Official Notice that usually there is a cutoff limit on the amount of checking one might conduct in determining a fraudulent transaction. Further, it would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to modify Hillmer to include a records cutoff. There is a simple motivation: the

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idea behind all of these cases (including Applicants') is to somehow determine fraud quickly and with limited data, as opposed to doing a painstaking, endless review of records. Contrary to the assertion of Applicants, all security proceeding must have some cutoff point, at some time, rendering this claim obvious over the prior art.

With regard to Claim 9, Hillmer teaches the method comprising:

returning code values that signal specified risk issues that have been detected with respect to the transaction. (Col. 12, lines 14-24)

With regard to Claim 10, Hillmer teaches the method wherein

one of the plurality of tests determines whether an Internet identity in the transaction data is found in a list of parties to known past fraudulent transactions. (Figure 2b(1), items 310-312)

With regard to Claim 11, Hillmer teaches the method wherein

one of the plurality of tests determines whether an Internet identity in the transaction data is found in a list of trusted parties. (Figure 2a(1), item 210)

With regard to Claims 12-13, Hillmer does not expressly disclose the process of testing of bi-gram values on transaction data. However, using bi-gram analysis is old and well known, as demonstrated in Baker at (Col. 6, lines 18-29; Col. 7, lines 45-52). Applicants' comments regarding the Examiner's motivational statements are well taken. Still, it would have been obvious to one of ordinary skill in the art at the time Applicants' invention was made to combine the teachings of Hillmer to include bi-gram analysis. The motivation for such a combination is within the general knowledge of one of ordinary skill in the art, and is simply that using a bi-gram analysis would be one of the most effective tools in conducting text based analysis of data, increasing the likelihood of making accurate determinations of fraud. While Applicants assert that the Examiner

does not present evidence of this fact, it is clear from reading the cited reference that this is known.

With regard to Claims 14-21, Applicants argue that the Examiner has improperly grouped these claims together when performing an analysis under 35 U.S.C. 103. The Examiner disagrees, in that he concedes that Hillmer does not expressly teach the method steps that are described in each of these claims relating to various pieces of information that can be compared, on a superficial level, to determine irregularities. These pieces of information include: city value, area code, longitude and latitude values, email domain values, country values, and bank ID values (BIN), shipping address values, and others. The Examiner then points out that the tests contemplated by these claims are of a general type that that is unpatentable over a combination of Hillmer and Degen. It is the Examiner's position that these claims are only obvious modifications to the prior art of old and well known technologies or substantially similar technologies to that actually describe in the prior art.

As pointed out previously, Degen discloses a variety of fields in Figure 5c and at (Col. 6, line 29 – Col. 7, line 45) that relate to physical address, area code, domain names, etc. which are able to analyzed in a text evaluation. Further, Degen discloses databases storing various pieces of information, similar to that in the claim, to determine if there is an irregularity in the presentation. See (Degen, Col. 3, lines 30-51). The databases in function act like a table, as items are quickly referenced. The Examiner takes Official Notice that the missing limitations, not disclosed in Degen, are old and well known in the art, including BIN's, hardware NIC cards, etc. Further, it would have

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been obvious to one of ordinary skill in the art at the time Applicants' invention was made to modify Hillmer in view of Degen to include an analysis of city, state, and country (in terms of physical proximity) as it relates to email domain names, area codes, and bank identification numbers, latitude and longitude indicators. The motivation for such a combination is to provide a fraud detection mechanism that performs multiple types of evaluations in a single process, thereby saving time and money. In addition, by combining tests, accuracy is likely increased over using results of a single test.

With regard to Claim 28, Hillmer teaches the method comprising:

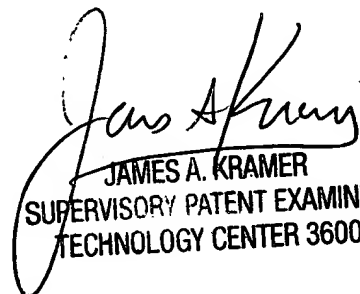
receiving the transaction data is performed by a first apparatus that is linked to a second apparatus by a network; and blending the model score value is performed by the second apparatus. (Figure 1, items 104,108)

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Alpert whose telephone number is (571) 272-6738. The examiner can normally be reached on M-F 9:00-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Kramer can be reached on (571) 272-6783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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February 20, 2007

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